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MILLERSVILLE
UNIVERSITY
ARCHIVES

MILLERSVILLE STUDENT PROPOSED FM RADIO

INTRODUCTION

The purpose of this booklet is to answer some of the questions about FM radio here at Millersville. The answere for the question- "Why right now?" is simple. The facts are in, and there is one, and only one FM frequency left in this area. Dr. Champa was originally to put the station on for the college. For various reasons, (antiquation, low power, etc.) he has elected not to. He has in turn related to WMSR the facts concerning this frequency. He may retain it or give it up. He has elected to give it to the students. If the students do not take it , he will turn it back in. At this time Franklin and Marshall college will definatly apply for the frequency and get it. We know this for fact from an employee of WGAL, who is doing the work for the F+Mpeople. There are many reasons to go FM. It is more economical, it will sound better, commutters, alumni, and the general public will be able to listen to it. Wouldn't it be nice to have a concert that paid for itself due to the advertising done on his station-----and so on down the line for all other student activities. The station would speak for the students to the public-----about an unfair increase in tuition. It would then let the voters know what is happeining. These are just a few of the many advantages

Tom Coble

Legal Aspects

License- Mr. Sweigert, of Student Services, has been approached regarding the holding of the station license. Student Services Inc. meets all the requirements set forth in Volume 3 Section 73.503 of the FCC rules and regulations. You have this in the rear of he booklet.

Operation- The station, because it is on the educational frequency, is not required to be onthe air a minimal hours of time. This says that when the students go home the station goes of the air if no one is here to run it. According to Volume 3 Section 73.804. Its in the rear. The only thing to keep in mind is that if the station is not on the air hardly at all, the FCC will ask when your license is up for renewal.

Renewal- Station licenses are renewable every three years. Unless the station burns down, or we incite revolution in Lancaster County, our license will automatically be renewed every three years as it is done for 99% of the stations in the U.S. In other words we may use the frequency indefinetly if we do not abuse it.

POSSIBLE LEGAL AGAINST THE STATION- This can only happen if there is a repetition of foul language on the air or if we slander a person or organization. In the history of WMSR this has never occurred. Also, the people need a recording of it--not to likely, one case a year in the U.S. is a decent approximation.

OPERATION

For this station it is necessary to have one first class engineer. He may be a paid employee, or a student who has signed a statement that is on file in the station that states he will be responsible for transmitter maintance. Vol 3 Sec 73.56a-1 Students who would normally due the work at the station need only posses a thisrd class license. This license is very simple to attain.

There is aother good point to present now. Dr. Champa has two first class people working for him and he has made a guarantee that they will help us in the future in we need it. To quote him, "You will not have to worry about a first!"

ECONOMICS

TOTAL PACKAGE OF ALL EQUIPMENT NEEDED FOR FM
100% new tubes included 19,229.00
With this system there is a possibility of
reaching a quarter of a million people

TOTAL PACKAGE EXPANSION FOR TWO NEW DORMS NEXT YEAR 3,350.00
This system presently reaches 11000 people.

AVERAGE COST TO MAINTAIN PRESENT SYSTEM THIS YEAR
Includes parts, etc 2,250.00

Tentative avg. maint. cost of fm first year 500.00
difference 2,650.00

It should be kept in mind that any addition to the current system will drive the maintance cost up. The FM system would have this inherent problem. This cost increase is enevitable if the system is expanded as it has been in the past. This summer alone there will be two neww large apartment buildings started within 4 blocks of school for students. It would also seem that the commuters, who have not benefited by the $50.000.00 + already spent, could turn down fm and encourgge the expansion of the carrier system in the future.

Thoughts

It takes an open mind to accept what I have coproposed in this booklet. Frankly I feel that the Student body will be refunded in many, many, varied ways. I think it would be wise t list them in order of importance.

"69%" OF STUDENTS LIVE OFF CAMPUS

Economic aspects and the capital outlay for what type of reslts.

Better technical signal. The current system in the station is better than the equipment in any of the surrounding commercial stations due to the fact it is newer.

To present a good station. Many people will atest that there is not a good station in the Central Pennsylvania area.

Develope a relation between the Community and the College. Just imagine how much nicer it would be if there was a good relationship between the college and the community and vice versa. We know this d vilopes from people we have talked to who have fm stations. They say it is amazing? They told us, we didn't ask.

Present a student voice to the public. With this outlet, campus organizations would be able to advertise freely to the public upon whom they hope many times to make money from to pay their expenses.

Possibly establish a name for the students as well aw for the college.

PROPOSAL CONTINUATION PAGE

ITEM	QTY	DESCRIPTION OF SUPPLIES OR SERVICES	UNIT PRICE	TOTAL	DEL*
		TOWER AND TRANSMISSION LINE:			
5	1	Utility Type 340 UCS guyed tower, 150' high, galvanized, complete including tower, all hardware, anchors and guys, erection on normal terrain, painting and lighting to FAA-A-1 specifications. Price also includes 20' fiberglass insulators for one set of guy wires to be installed where guy wires enter the antenna field		$ 3,037.00	
6	150'	Andrew Type HJ7-50A Air Heliax, 1 5/8"	4.50/ft	675.00	
7	1	Andrew Type 87R EIA Flange factory attached to Item 6 above		54.00	
8	1	Andrew Type 87G EIA Flange with gas barrier factory attached to Item 6 above		68.00	
9	1	Andrew Type 1861 Reducer, 3 1/8" to 1 5/8'		70.00	
10		Installation of antenna and transmission line		525.00	
		(OPTIONAL EQUIPMENT)			
5a	1	Andrew Type 858C nitrogen tank fitting		100.00	
5b	1	Installation of deicers as listed under 4a ($25.00/bay)		75.00	
5c	1	Furnish and install deicer line under 4a ($1.50/ft.)		225.00	
5d	1	FMC - 7.5 AM/FM Isocoupler		795.00	
		TOTAL TOWER AND TRANSMISSION LINE (Does not include optional equipment)		$ 4,429.00	
		AUDIO EQUIPMENT			
10	1	SPARTA GROUP #3 Showcase package (Mono) (1) A-20-B 8 Mixer Audio Console with Console Desk & Hood with Digital Clock and Monitor/cue speaker; microphone; Dual Turntable systems and pedestal, Utility return pedestal with cartridge hutch (1) 800C-RP tape cartridge record/playback and (2) 800-C-P Playback		4,700.00	

*SUBJECT TO CONFIRMATION OF ORDER

OF PROPOSAL NO. _____

DATE: _____

SPARTA
Electronic Corporation
[illegible]

SPARTA
Electronic Corporation
5851 Florin-Perkins Road (916 – 383-5353)
Sacramento, California 95828
A DIVISION OF COMPUTER EQUIPMENT CORPORATION

PROPOSAL

TO
WMSR RADIO
MILLERSVILLE STATE COLLEGE
MILLERSVILLE, PA. 17551
ATT: MR. DON HUDAK C.E.
(Full Power - 3000W ERP)

MCN	DATE	SALESMAN
09290-1	9/29/70	ANDRE

SHIPPING INSTRUCTIONS: SEE BELOW

TERMS: SEE BELOW

ITEM	QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL
		SUMMARY		
		TRANSMITTING EQUIPMENT		$10,520.00
		MONITORING EQUIPMENT		1,550.00
		ANTENNA EQUIPMENT		2,730.00
		TOWER & TRANSMISSION LINE		4,429.00
		AUDIO EQUIPMENT		7,557.00
		*TOTAL		$26,786.00
		*Price does not include optional equipment		
		TERMS:		
		25% down with firm order with balance payable as follows –		
		Net 30 days or		
		financed over a period of 36 to 48 months at an add on finance charge of 7½% per annum – the first payment would not be due until 60 days after shipment of Item 1.		
		or		
		Lease/purchase terms up to 60 months.		
		DELIVERY:		
		All items 45 days or less after receipt of firm order and credit approval.		
		SHIPMENT: Best way FOB point of shipment		

This page and all others designated as part of this Proposal are subject to the Conditions of Sale specified including those on the reverse side

ACCEPTED THIS ____ DAY OF ____ 19 ____

(PURCHASER'S NAME, CORPORATION OR PARTNERSHIP)

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PROPOSAL CONTINUATION PAGE

ITEM	QTY	DESCRIPTION OF SUPPLIES OR SERVICES	UNIT PRICE	TOTAL	DEL.*
		AUDIO EQUIPMENT (Cont'd.)			
12	1	CBS Model 410 FM Volumax		$ 725.00	
13	1	Sparta AC-155 (Mono) Production Room Audio Control Center including Model A-15B Audio Console and (2) professional turntable systems		1,325.00	
14	1	MIC-5 Dynamic microphone w/gooseneck		57.50	
15	1	Model 7030U mono and 2 track stereo 10 ½" reel, professional tape recorder 7 ½ and 15 IPS		749.50	
		(OPTIONAL EQUIPMENT)			
10a	1	Special Stereo Group #3 Showcase Package including Model 910S - 8 Mixer Stereo Audio Console; Console Desk, Microphone; Dual Stereo Turntable Systems and Pedestal, Utility Return Pedestal with Cartridge Hutch and (1) 600C-RP Stereo Tape Cartridge Record/Playback, (2) 600C-P Playback		6,990.00	
10b	1	Model ASC-305 Stereo Production Room Audio Control Center including Model AS-30-B Stereo Audio Console and (2) professional stereo turntable systems		1,695.00	
10c	1	CBS Model 411 FM Volumax - Stereo		1,445.00	
		TOTAL AUDIO EQUIPMENT (Does not include optional equipment)		$ 7,557.00	

*SUBJECT TO CONFIRMATION OF ORDER

OF PROPOSAL NO. _____

DATE: _____

SPARTA
Electronic Corporation

PROPOSAL CONTINUATION PAGE

ITEM	QTY	DESCRIPTION OF SUPPLIES OR SERVICES	UNIT PRICE	TOTAL	DEL*
		TRANSMITTING EQUIPMENT:			
1	1	Model 602 2500 watt FM Transmitter complete with one set of operating tubes and crystal tuned and tested on frequency		$10,300. 00	
2	1	TK-602 100% set of Spare Tubes		220. 00	
		(OPTIONAL EQUIPMENT)			
1a	1	Spare Crystal and oven for Item 1 above		86. 00	
1b	1	Model 661 stereo generator		795. 00	
1c	1	Model 662 SCA generator, 67KHZ (42 KHZ also available)		495. 00	
		TOTAL TRANSMITTING EQUIPMENT (Does not include optional equipment)		$10,520. 00	
		MONITORING EQUIPMENT:			
3	1	Belar Model FMM-1 frequency and modulation monitor tuned and tested on frequency		1,550. 00	
		(OPTIONAL EQUIPMENT)			
3a	1	Belar Model FMS-1 Frequency and Modulation monitor - stereo		1,350. 00	
3b	1	Belar Model SCM-1 frequency and modulation monitor - SCA		1,250. 00	
		TOTAL MONITORING EQUIPMENT (Does not include optional equipment)		1,550. 00	
		ANTENNA EQUIPMENT:			
4	1	Jsmpro Model JSCP-3 circularly polarized FM antenna 3 bay with power gain of 1.5		2,730. 00	
		(OPTIONAL EQUIPMENT)			
4a	3	Deicers for Item 4 above	180. 00	540. 00	
		TOTAL ANTENNA EQUIPMENT (Does not include optional equipment)		$2,730. 00	

*SUBJECT TO CONFIRMATION OF ORDER

OF PROPOSAL NO. _____

DATE: _____

SPARTA
Electronic Corporation
5851 Pacific Boulevard (714) 453-8381
Sacramento, California 95822

SUBPART C—NONCOMMERCIAL EDUCATIONAL FM BROADCAST STATIONS

CLASSIFICATION OF STATIONS AND ALLOCATION OF FREQUENCIES

§ 73.501 Channels available for assignment.

(a) The following frequencies, except as provided in paragraph (b) of this section, are available for noncommercial educational FM broadcasting:

Frequency (Mc/s):	Channel No.	Frequency (Mc/s):	Channel No.
88.1	201	90.1	[illegible]
88.3	202	90.3	[illegible]
88.5	203	90.5	[illegible]
88.7	204	90.7	[illegible]
88.9	205	90.9	[illegible]
89.1	1 206	91.1	[illegible]
89.3	207	91.3	[illegible]
89.5	208	91.5	[illegible]
89.7	209	91.7	[illegible]
89.9	210	91.9	[illegible]

1 The frequency 89.1 Mc/s, Channel No. 206 in the New York City metropolitan area, is reserved for the use of the United Nations with the equivalent of an antenna height of 500 feet above average terrain and effective radiated power of 20 kw, and the Commission will make no assignments which would cause objectionable interference with such use.

(b) In Alaska, the frequency band 88–100 Mc/s is allocated exclusively to Government radio services and the non-Government fixed service. The frequencies 88.1 Mc/s through 91.9 Mc/s (Channels 201 through 220, inclusive) will not be assigned in Alaska for use by noncommercial educational FM broadcast stations; however, the frequencies 100.1–107.9 Mc/s (Channels 261 through 300, inclusive) are available for such use.

§ 73.502 State-wide plans.

In considering the assignment of a channel for a noncommercial educational FM broadcast station, the Commission will take into consideration the extent to which each application meets the requirements of any state-wide plan for noncommercial educational FM broadcast stations filed with the Commission, provided that such plans afford fair treatment to public and private educational institutions, urban and rural, at the primary, secondary, higher, and adult educational levels, and appear otherwise fair and equitable.

§ 73.503 Licensing requirements and service.

The operation of, and the service furnished by noncommercial educational FM broadcast stations shall be governed by the following:

(a) A noncommercial educational FM broadcast station will be licensed only to a nonprofit educational organization and upon showing that the station will be used for the advancement of an educational program.

(1) In determining the eligibility of publicly supported educational organizations, the accreditation of their respective state departments of education shall be taken into consideration.

(2) In determining the eligibility of privately controlled educational organizations, the accreditation of state departments of education and/or recognized regional and national educational accrediting organizations shall be taken into consideration.

(b) Each station may transmit programs directed to specific schools in a system or systems for use in connection with the regular courses as well as routine and administrative material pertaining thereto and may transmit educational, cultural, and entertainment programs to the public.

(c) Each station shall furnish a non-profit and noncommercial broadcast service. No sponsored or commercial programs shall be transmitted nor shall commercial announcements of any character be made. A station shall not transmit the programs of other classes of broadcast stations unless all commercial announcements and commercial references in the continuity are eliminated. The provisions of this paragraph shall not be considered to prohibit the broadcast of programs (without commercial announcements or references) where the only consideration received by the licensee is the furnishing of the program material and/or the payment of line charges.

§ 73.504 Zones, classes of stations, use of channels, facilities, and minimum mileage separations between stations.

(a) *Zones.* For the purpose of assignment of noncommercial educational FM stations, the United States is divided into three zones, Zone I, Zone I–A, and Zone II, having the boundaries specified in § 73.205.

(b) *Classes of stations.* Noncommercial educational stations operating on the channels specified in § 73.501 are divided into four classes, as follows:

(1) A Class D educational station is one operating with no more than 10 watts transmitter power output. Class D stations may be assigned in all zones, on any of the channels specified in § 73.501.

(2) Noncommercial educational stations with more than 10 watts transmitter output are classified as Class A, Class B, or Class C, depending on the effective radiated power and antenna height above average terrain, and the zone in which the station's transmitter is located, on the same basis as provided in §§ 73.205, 73.200, and 73.211 for stations on the non-reserved FM channels. Where a station is authorized with more than 2 kilowatts (4.8 dbk) effective radiated power, or coverage greater than that obtained by the equivalent of 3 kilowatts effective radiated power and 500 foot antenna height above average terrain, it is classified as a Class B station if its transmitter is located in Zone I or Zone I–A, and as a Class C station if its transmitter is located in Zone II. Class A stations may be assigned in all zones.

(c) *Use of channels.* All classes of noncommercial educational stations may be assigned to any of the channels set forth in § 73.501.

(d) *Facilities.* (1) No minimum effective radiated power or antenna height is specified for stations operating on the channels specified in § 73.501.

ing meters and making log entries), is properly instructed so as to be capable of performing the duties required of him at times when not under the immediate supervision of an operator of the grade indicated for the station in subparagraphs (1), (2), or (3) of paragraph (c) of this section. Where necessary, printed step-by-step instructions shall be posted for those transmitter adjustments which the lesser grade operator is authorized to make. Should the transmitting apparatus be observed to be operating in any manner inconsistent with this subpart or the current instrument of authorization for the station at any time when an operator of the grade indicated for the station in subparagraphs (1), (2), or (3) of paragraph (c) of this section is not immediately available, and none of the above adjustments is effective in correcting the condition of improper operation, the emissions of the station shall be immediately terminated.

[§ 73.565(a) *and* (b) *as amended eff. 5-14-65; III(64)-8*]

(c) If the routine operation of the transmitting apparatus at a noncommercial educational FM broadcast station is performed by a lesser grade operator pursuant to the provisions of paragraph (b) of this section, the licensee shall employ as a full-time member of the station staff (in the alternative, the licensee may contract in writing for the services on a part-time basis) one or more operators holding:

(1) A valid radiotelephone first-class operator license if the station is authorized to operate with transmitter power output of more than 1 kw but not in excess of 25 kw.

(2) A valid radiotelephone first-class or second-class operator license if the station is authorized to operate with transmitter power output of more than 10 watts but not in excess of 1 kw.

(3) A valid first-class or second-class radiotelephone or radiotelegraph operator license if the station is authorized to operate with transmitter power output of not more than 10 watts.

The operators specified in subparagraphs (1), (2), and (3) of this paragraph shall perform transmitter maintenance and shall be promptly available at all times to correct conditions of improper operation beyond the scope of authority of the lesser grade operator on duty. If the services of the operator or the operators indicated in subparagraphs (1), (2), and (3) of this paragraph are on a contract part-time basis, a signed copy of the agreement shall be kept in the files of the station and at the transmitter or control point and shall be made available for inspection upon request by any authorized representative of the Commission. A signed copy of the agreement shall also be forwarded to the Commission and to the Engineer in Charge of the radio district in which the station is located within 3 days after the agreement is signed.

[§ 73.565(c)(3) *Note deleted eff. 11-26-65; III(64)-11*]

(d) The licensed operator on duty and in charge of a noncommercial educational FM broadcast transmitter may, at the discretion of the licensee, be employed for other duties or for the operation of another radio station or stations in accordance with the class of operator's license which he holds and the rules and regulations governing such other stations: *Provided, however,* That such duties shall in nowise interfere with the proper operation of the FM broadcast transmitter.

(e) At all noncommercial educational FM broadcast stations, a complete inspection of all transmitting equipment in use shall be made by an operator holding a valid radiotelephone first-class operator license at least once each day, 5 days each week, with an interval of no less than 12 hours between successive inspections. This inspection shall include such tests, adjustments, and repairs as may be necessary to insure operation in conformance with the provisions of this subpart and the current instrument of authorization for the station: *Provided,* That if the transmitter power output is in excess of 10 watts but not greater than 1 kw, an operator holding a radiotelephone second-class operator license may perform the required inspection: *Provided, further,* That if the transmitter power output is 10 watts or less, no such daily inspection need be made, although this shall in no way relieve

Indicates Station must have on file name of Person holding First who will be responsible For maintance of Each transmitter.